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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JUL 7 1928

REPORT FOR WEEK ENDING JULY 7, 1928.

HAVRE:

The past week was cool and cloudy with one shower amounting to .28 inch. Conditions were almost ideal for the growth of small grains. All spring seeded grains that were seeded mediumly early are either headed or are heading. Cool weather the last three weeks has produced a great many stools on oats and barley especially, and these will apparently produce heads. A few fields of corn are making fair growth but on our rotations this crop has made but little advancement. Weeds have made very rapid growth, and it has been necessary to cultivate most everything.

Stacking of irrigated alfalfa was completed during the week. Some of this hay was down nearly a month and needless to say was stacked in poor condition.

Quite a large amount of land in this section is being plowed for next year. In some cases new sod is being broken.

Range grasses made very good progress during the week. Western wheat grass is making an unusual growth especially after the late rains of this year. This grass usually requires moisture early in the season. Gramma grass is just starting to head. This grass will probably make quite a heavy growth this season.

Maximum temperature 81, Minimum 47; Precipitation .29 inch.

HUNTLEY:

Four measurable showers were received during the past week. One of these was torrential in character and accompanied by hail, which caused a little damage to corn and beans in a corner of Field G. The main body of the storm missed the station but caused considerable injury to crops south and east of the experimental fields.

Two or three warm days put better color into corn, bean, and sorgo crops that have been held in check by the cool weather and served to start the ripening of winter wheat. Plots of the latter crop which had been stunted by drought are beginning to turn, but the wheat on fallowed land is still green. Spring grains are fully headed and some kinds are beginning to bloom. Weeds have benefited by the rains and warmer weather and have sprung up in profusion all over the country. Range vegetation, which has made little growth up to the present time, this season, is beginning to come on and the hills now look quite green.

Huntley, contd.

The principal field work during the week has been the cultivation of row crops, hoeing and rogueing.

Maximum temperature 89; Minimum 45; Precipitation .65 inch.

SHERIDAN:

Two drying days, the 4th and 5th, allowed weights to be secured on the remainder of the plots of hay and gave time for the most of the hay to be hauled. The remainder of the week continued cool and cloudy with frequent showers and one heavy rain. Cultivation of corn in the rotations was begun on the 6th but was stopped by rain.

Practically all grain except late seedings is now headed. Some of the winter wheat is beginning to turn and rye probably will be ready to harvest during the coming week. Condition of all crops continues good. Corn has made a fair growth in spite of the cool weather. Alfalfa where cut early is now about as high as before cutting.

Mr. F. A. Coffman, of the Office of Cereal Crops and Diseases, is visiting the station today.

Maximum temperature 84, Minimum 44; Precipitation 1.68 inches.

DICKINSON:

Precipitation for the week amounted to 2.36 inches. This fell in four rains, the heaviest on the night of the 6th amounted to 1.13 inches. This washed cultivated fields and roadways a little but the runoff was not excessive. On the night of the 5th a washout in the Badlands about 30 miles west of the station prevented trains on the Northern Pacific from passing for about 24 hours.

The weather was warmer during most of the week and development of crops was rapid. Wheat, oats, and barley on the rotation plots are just fully headed, about 15 days earlier in reaching this stage than in 1927. These crops on fallow and corn ground now promise a yield about as good as last year but on poor methods the weeds are so thick in many fields that yields will be much less.

Field peas are in full bloom and indicate a heavy yield of seed. The second growth of alfalfa is now heavier than the first crop but will not be ready to cut for about two weeks.

Dickinson, contd.

Orchard and garden crops made good growth since the rainy period started. A few plums were blown from the trees on the night of the 5th, but a good set is left on all adapted varieties. Strawberries have been ripening for about 10 days and the yield and quality are the best for several years. Potatoes were used from the garden on July 4. Peas have been used for about a week. Golden Acre cabbage is about ready to use.

Fallow plots on the rotations were cultivated. Potatoes were sprayed for the first time.

Dr. A. E. Benton, Department of Marketing and Rural Organizations, North Dakota Experiment Station, was a visitor on July 4.

Maximum temperature 84, Minimum 51; Precipitation 2.36 inches.

MANDAN:

Agronomy.

Rains the past week delayed all field work. The heavy rain early in the week caused excessive washing in the south field. Some of the alleys and roads were badly washed, but none of the plots were badly injured.

Peas were turned under and late fallow plowed. Some re-seeding of alfalfa and slender wheat grass was done, where poor stands resulted from earlier seeding.

About 11 acres of hay is down in field B. The growth was fairly heavy along the coulee. Part of it has been raked, but rain last hight and cloudiness today will not allow the hay to be cocked this week.

Small grains are looking very good at this time. Some of the poorer methods will make a light crop, but the better methods should be good.

Corn improved during the week. Many plots are rather uneven, as some of the grain did not come until after the rains in June.

Hail fell for a few minutes on the 1st, but did little or no damage on the station. A hard wind storm on the night of the 5th caused a good deal of damage to buildings and trees near Mandan. There was no damage on the station except that some plots were badly lodged by the wind and rain.

The thistles which were very bad in some plots earlier in the season, are now behind the grain, and their growth has been checked by the abundant moisture.

Mandan, contd.

The total rainfall for June was 6.32 inches, the same as in 1915. This amount has been exceeded only three times during the 54 years of record for this area. The 50-year average for June is 3.43 inches. The total for the year to June 30, inclusive, is 8.36 inches, compared with the 50-year average of 9.37 inches.

The rainfall for July to date is as follows: 2d. 1.35, 6th. .55, 7th. .24, Total 2.14 inches. A rainfall of 1.44 inches came on the night of the 30th. The rainfall at the pasture for the night of the 30th and night of the 1st, was 1.82, as compared with 2.79 for the station. The 50-year average for July is 2.33 inches.

Maximum temperature 90, Minimum54; Precipitation 3.58 inches.

Cooperative Grazing Experiment.

All pastures are greatly improved since the rains started about June 10. Grazing is now very excellent. Blue grama grass has made a fine growth in the past two weeks, and now furnishes good feed in the smaller pastures which were very short. The brome grass pasture, which was in very poor condition, is now furnishing an abundance of feed. Sweet clover is far ahead of the cattle, and is much undergrazed at present. One or two of the steers on sweet clover have shown some indications of bloat, but nothing serious has resulted to date.

The steers did not make normal gains for June. This was no doubt largely because of the poor condition of most pastures during the first half of the month. The division of the rotation pasture was grazed down very close. They were removed to another division at the end of June.

Following are the steer gains for June and for the season:

Pasture	Acres per head	Per head gain. lbs June	Per head gains. Lbs 45 days
100-acres	10	64.5	123.5
70-acres	7	74.0	118.0
50-acres	5	53.5	93.5
30-acres	3	40.0	40.0
Rotations (70 ac.)	5*	39.6	91.4
Brome grass (25 ac.)	3.1	30.6	73.1
Sweet clover (10 ac.)	2.0	77.0	126.0

* Average for the season, 14 head were on 24 acres for 45 days.

Mandan, contd.

There was a good deal of brome grass in with the sweet clover and the cattle first began to take the clover along toward the end of June. The brome grass was not entirely cleaned up before they started on the clover. With the pastures in such excellent condition, the cattle will no doubt make more than their normal gain for July unless the flies get too bad. Mosquitoes were bad during the latter part of June, and may have reduced the cattle gains.

Clipped quadrats show that Blue grama grass made a very good growth during the past two weeks.

Horticulture.

Currants were picked on July 6; yields were very poor owing to the fact that the bushes were so severely winterkilled. London Market suffered the least winter injury and gave the highest yields. Juneberries are also ripe and are yielding very well this year.

Blight is spreading rapidly since the recent rains. The diseased parts are being removed. The orchards are being cultivated and sprayed.

Showers continue to come and vegetables of all kinds and grasses grow lustily. The lawns about the station grounds have never been better than at the present time. Geraniums and Cannas in their respective beds, have taken firm hold of the ground, and are growing and blooming nicely. In the perennial flower garden, the Coreopsis, Delphinium, Gypsophita, and Lilium superbum, are carrying on where the peonies left off. These latter lasted an unusually long time in bloom this year, a few stragglers of Baroness Schroeder and Rubra superba, still being seen.

From the acre garden are being harvested peas, cualiflower, and cabbage. Head lettuce are still yielding, although being past its prime. The Big Boston variety has been especially good, heads being very firm and of good size.

Weeds are becoming troublesome, but on account of the wet weather, little field cultivation has been accomplished.

Hotbed pits have been cleaned, manure stocked and forked over, groups on grounds hoed and roads repaired.

Mandan, contd.

Arboriculture.

Preparations have been completed for a conference of Tree Distribution men and Extension Foresters operating under the Clarke-McNary law in the Great Plains and eastern Rocky Mountain states, to be held at Mandan July 12 and 13. Representatives are expected from Kansas, Colorado, Idaho, Nebraska, Wyoming, Montana, North Dakota, Minnesota, and Canada. The morning of the first day will be spent in an inspection of station plantings, and the remainder of the time given to the presentation and discussion of papers on various phases of tree plantings and nursery production. The party will assemble at Bottineau, N. Dak., on July 9, for an inspection of the North Dakota State Nursery, and will visit a number of demonstration shelterbelt plantings enroute to Mandan. The following topics will be discussed at the conference:

"Nursery Practice in the Production of Stock for Plains Planting."
"Management of Farm Woodlots."
"Distribution of Forest Planting stock under Sec. 4 of Clark-McNary law."
"State Policy in Clark-McNary Distribution."
"Forestry Extension from the Viewpoint of the Agricultural Extension Service."
"Cultural Requirements in Connection with State Distribution of Trees for Windbreak and Other Forest Planting."
"Nursery and Planting Practices in Canada."
"Aims and Accomplishments in Forestry Extension."
"Ways of Interesting County Agricultural Agents in Farm Forestry."
"Correlation of Distribution, Inspection and Demonstration, in Re-forestation Activities."
"State Grown and Commercial Forest Planting Stock."
"Attitude of Commercial Nurserymen Towards State Distribution of Windbreak and Woodlot Trees."

Mr. J. H. Allison, Prof. and Assoc. Forester, Minnesota University, is a visitor over the week end.

ARDMORE:

The week was characterized by hot dry weather. The temperature reached one hundred degrees on July 5 and was above ninety degrees on several other days. The only precipitation recorded was a shower of .55 inch the night of July 6.

Small grains, particularly on the poorer methods of cultivation, fired badly during the hot weather. The shower relieved the situation temporarily. Some of the early varieties of oats are ripening and all of the oats have commenced to turn.

Ardmore, contd.

The hot weather caused the corn to make rapid growth, and the corn is at least normally advanced in growth. Sorgo also commenced rapid growth after having been almost at a standstill during the cool weather of June. All corn and sorgo was cultivated during the week.

Field mice are causing some damage in many grain plots, and have made poisoning necessary.

General field operations consisted of working fallow and green manure plots, and cleaning roads and fence rows.

The cement work for the farrowing house was completed and the erection of the framework commenced.

The pigs on self feeder were weighed during the week. The pigs in the dry lots have made slightly better gains to date than those on alfalfa pasture. The lots receiving oil meal have made slightly better gains than those not receiving it, both in the dry lot and on pasture. The average weight of all pigs on self feeder is [illegible] pounds.

The June gain per head of the different lots of steers was as follows:

80 acre pasture	75.0 pounds
150 " "	68.5 "
160 " rotation pasture	65.9 "
Reserve pasture	62.5 pounds

Maximum temperature 100, Minimum 52; Precipitation .65 inch.

ARCHER:

During the period from June 17 to July 7 the weather has been favorable for crop growth and field work. The precipitation for the last half of June was 1.30 inches, making a total of 2.66 inches well distributed throughout the month. This in connection with the favorable precipitation during May has caused all crops seeded the last of April and the first half of May to produce a rank growth. Winter rye and winter wheat have taken full advantage of this condition. Spring wheat on the Dry-Land plots and perennial forage crops grew extra well. Most of the latter plots have been cut and hauled producing from 1 to 1½ tons of hay per acre. Pastures are in a very fine condition. The weather for the past week has been warm and dry and the heavy growth of cereal crops is in need of rain.

Archer, contd.

The work at the station has consisted of lining plots, plowing, and duckfooting fallow areas and cultivating corn and potatoes on the Dry-Land plots. Most of the corn and all the sunflowers in the dairy field have been cultivated twice. Due to the abundance of Franceria Tomentosa it was necessary to plow a portion of a number of the Dry-Land and Cereal plots in an effort to bring this weed into subjection. Winter rye for green manure was plowed under at the same time the fallow plots were plowed.

Weather conditions for the past week were as follows:

Maximum temperature 92, Minimum 47; Precipitation 0.04 inch.

AKRON:

The ewes and lanbs were weighed early in the week and the lambs dipped for ticks. The orchards were sprayed and spring tooth harrowed. The green manure rye plots were duckfoot cultivated. The bean variety experiment was cultivated for the first time. The forage variety experiment was given the second cultivation of the season. Many of the experimental alleys and certain of the roadways were cultivated. Alfalfa of Rotation 42 was cut for hay. The green manure pea and sweet clover plots, the sod plots of Rotations 41 and 42, and the late plowed fallow plot of the Methods of Fallow, were plowed this week end. The peas had made a very rank heavy growth and it was necessary to disk them previous to plowing. The peas were drying up by this week end with only the first pods formed.

The week had been hot and dry, the first really warm weather of the season. The row crops and weeds have responded wonderfully. The ewes and lambs were placed on the fallow field of Sheep Rotation 28 on June 29th with then a very questionable supply of weeds. By July 7 it was necessary to cultivate one half of this field because the weeds were getting beyond control of the sheep. Corn now stands about knee high and is showing good color for the first time. The sorghums are green down the row and making appreciable progress each day. These sorghums were seeded June 7, or earlier. One requirement of a grain sorghum for this region seems to be that it shall be able to remain in a cold wet soil rather indefinitely without rotting.

Certain of the small grain plots are already beginning to burn. Early seeded winter wheat, certain of the oat and barley varieties and the winter rye are beginning to ripen. It now appears that a heavy harvest would begin the middle to the end of next week.

Akron, contd.

The most of the small grains have filled or are filling nicely. Tenmarq winter wheat is especially promising among the winter wheat varieties. The heads of this variety are so well filled and so plump that they look 'clubby'. One small piece of increase Tenmarq has been estimated to yield as high as 40 bushels to the acre. Burt 916 oats looks especially promising on last year's bean variety ground.

Timme cherries are about ripe. The report since the last spraying is that there is a better showing of apples than was expected. The apple trees bloomed very sparingly this spring.

Professors Kezer, Robertson, and Sjogren visited the station for a short time Saturday evening.

Maximum temperature 97, Minimum 53; Precipitation 0.

NORTH PLATTE:

Weather for the week has been clear, dry, and hot, with strong winds. Maximum temperatures have been above 90 degrees each day. This is in vivid contrast to the cool, wet weather which prevailed through the entire month of June. Grain crops which had made rank growth and had used most of the June moisture supply as it was received are now suffering severely. As frequently happens under these conditions, a fine prospect is being rapidly turned into a disappointment. Corn is now making rapid growth, but potatoes, which had made heavy vine growth during the cool weather, are wilting each day.

Winter wheat harvest will open up next week.

COLBY:

Weather conditions were very favorable for the ripening of the winter wheat this week. The temperatures of Thursday and Friday were 99 and 98 degrees respectively and a rather high, hot wind from the South dried the plants quite rapidly. The winter wheat on the station was not apparently damaged by the rapid drying process. It is now just about ripe enough to bind. None has been cut yet but harvesting will start the first of the week. The taller winter wheat has lodged quite badly in spots. Some is going down as it ripens. It is anticipated that harvesting of the lodged areas will be rather difficult but that most of the grain will be saved. The lodged areas have filled very much the same as that which is still standing. It is noted that the

Colby, contd.

wheat is going to shatter quite badly as it ripens. The rather full immature grains spread the glumes and as they ripen the glumes are left distended. This is going to cause some shattering and very much more than normal is expected. No wheat has been cut in this vicinity to date.

Spring wheat has had the yield materially reduced by the two days weather referred to above. Barley is going to be plump and will do to cut the first of the week, at the same time as the wheat. Yields of barley are going to be higher than previously recorded according to reports and observation. Winter wheat yields in the County are going to be larger per acre than previously reported if advanced estimates are correct.

Oats are likewise going to be a bumper crop.

Cultivation of sorghums awas completed during the week. The DLA corn and corn varieties were also cultivated for the second time during the week.

Much weed eradication in roads, alleys, and waste areas remains to be done. All roads and alleys were worked during the week. The ground has gotten very hard after the rains have ceased.

Maximum temperature 99, Minimum 60; Evaporation 2.225 inches; Precipitation 0.05 inch. Average hourly wind velocity 7.4 m. p. h.

GARDEN CITY:

Weather conditions have been such during the past week that much field work was accomplished. All row crops, fallows and roadways were cultivated. Thinning of sorghums and corn should be completed the first of next week.

Most of the winter wheat plots were mowed and raked Friday. The straw was so tangled that binding was impossible. Much of the wheat which was damaged by hail early in June filled well and will produce a fair crop. Heads borne on straws which were damaged until the heads hung down filled normally and will produce a fair quality grain. No doubt, the cool damp weather following the hail accounts for the normal maturity of heads that under higher temperatures would have died.

Garden City, contd.

Wheat harvest started in this county during the week. Most of the wheat was harvested with either the header or binder, however, some combine wheat was marketed the latter part of the week. Yields as high as 50 bushels to the acre are being reported by farmers living south of the sandhills.

Maximum temperature 103, Minimum 64; Precipitation 0.

TUCUMCARI:

In spite of intese heat, hot winds, and drought, most crops are still in shape to fully recover if rain is received soon. Ranges are drying rapidly and will be very short soon.

Work during the week has consisted of harvesting wheat and rye plots, cultivating of plots and increase, thinning of milo plots in center field and watering of new grapes and trees.

This has been the hottest week of record, with maximum ranging from 100 to 105, averaging 103; and with minimum ranging from 66 to 74. The mean temperature for the week, 88, can be compared with the long-time July mean of 78. Wind velocity of 7.2 miles and evaporation of 3.238 inches are unusually high. Precipitation past week, o.02 inch, past 45 days, 1.16 inches.

DALHART:

This week has been a hot one with excessive winds. The winds have been hot and scorching. Some cloudiness prevailed during the end of a few days with threatening rain. On two of these occasions small showers were recorded, netting .03 and .06 inch respectively. These showers did not relieve the heat situation. The range has dried out until it is almost brown instead of green. The dry hot weather which has prevailed here over the past 3 to 4 weeks has had its effect, mostly with small grains. A little rain during this time would have caused the wheat to fill better, however, it has held out fairly well considering.

Dalhart, contd.

Field operations have been in full swing all week. The fields have all been cultivated, and some of the plots have been cultivated a second time. Everything has grown off well during this hot spell. The thinning work has progressed rapidly. All of the rotation plots are finished, all varieties on fallow, and most of the date variety plant ings. A few days thinning next week will finish the thinning program. Everything was thinned according to the time planted so that it did not get so high that the thinning would damage the remaining plants. The few remaining plots in the date variety plantings consist of the last date of planting, which is small at this time.

In spite of the continued dry hot weather with excessive wind over the past few weeks, there is a good reserve moisture in the crop fields. There is a good mulch of about 4 inches, then plenty of moisture. There has been no soil blowing on the station during these hard winds which have been prevalent in this section. Some fields have been either covered or blown out, making it necessary for farmers to replant. Some have lost a considerable acreage due to rodent damage. In some of these instances the farmer is going to summer fallow the land and plant to wheat in the fall.

Wheat harvesting is just getting in full swing in this section. Very little wheat was ready to combine the first of the week, but a lot of it is being combined at this time.

Maximum temperature 102 on 2 days, Minimum 60; Precipitation 0.09 inch, Evaporation 2.166 inches, Wind velocity 5.9 miles average.

BIG SPRING:

Weather conditions have remained hot and dry during the past week; although the soil is getting very dry, crops have not suffered to any noticeable extent.

Spacing cotton was thinned during the week, which completed all thinning with the exception of June 15 date of seeding of sorghums and cotton. July 1, the last date of planting of sorghums and cotton was made Monday, but the soil was so dry that it is very doubtful whether it will emerge before another rain.

Other work has consisted of cultivating and threshing wheat. Wheat was very poor this year; yields ranged from failures to 5 bushels per acre.

Maximum temperature 102, Minimum 64; Precipitation 0.

LAWTON:

Combining and threshing of small grains have gone forward steadily throughout the county during the past week of hot windy sunshine. Another week of good weather will probably see the close of such operations. Delayed by June rains as it was this year, this is one of the latest harvest periods in many years. Some good yields are reported but production as a whole is very spotted and a good many losses from storms were suffered.

Station work included cultivation of row crops, weed cutting, and hay making. Seven and one-half tons of prime alfalfa were put in the barn. The sweet clover seeding project seeded in 1927 was harvested July 5. All seedings made a remarkable recovery in growth during June but remained quite spotted and uneven. Hay yields ranged from 2300 to 3600 pounds per acre.

The surface soil is very hard and dry and difficult to cultivate. Cotton varies from 8 to 16 inches in height and small squares are setting on. The crop has made considerable growth the past week. Broom corn is beginning to head. Sudan grass planted April 15 yielded 4,420 pounds of cured hay per acre. Station work is now in shape to permit threshing which will be done as rapidly as possible.

Maximum temperature 99, Minimum 71

WOODWARD:

Weather during the past week has been hot, dry, and windy, and has been as favorable for the harvesting of wheat as the weather of last week was unfavorable. Most of the smaller fields of wheat in the vicinity of the Station were harvested during the week, but considerable harvesting, especially in the larger acreages, will extend well into next week. Reports of good yields of wheat harvested with combine have been coming in, but not enough has been threshed to estimate average yield over country with any certainty.

Row crops have been growing rapidly, but may soon need rain if the weather continues to be hot and windy. Work at the station during week consisted of cultivating and thinning crops on plots and fields, planting experimental corn, disking orchard, vineyard, and windbreaks, and harvesting alfalfa hay, which was stored in the barn today. Also, considerable miscellaneous hoeing was accomplished.

Maximum temperature 102, Minimum 69. Average hourly wind velocity 11.1 miles.
Precipitation 0. Evaporation 3.096 inches.

BELLEFOURCHE:

The first real summer weather of the season occurred during the week, the nights in particular being much warmer than usual. A maximum temperature of 94 was recorded on June 5, which is the highest temperature experienced so far this year. Several showers were received, and on June 6 a heavy down-pour occurred in which nearly 2 inches of precipitation fell in less than an hour. A great deal of run-off took place and some damage was done by flood water. A high wind accompanied the heavy rain, and most all plots of small grain in the dry land rotations were badly lodged, a number of plots of oats being completely flattened out as if a heavy roller had passed over them.

The warm weather has been very favorable to the growth of all crops. Corn and potatoes have made an especially rapid growth, and sorgo has made distinct advancement. Oats, reseeded on a number of plots destroyed by soil blowing in the spring, are fully headed, and the last of the winter wheat is finally headed. Field work has been devoted chiefly to duckfooting roads and fallow plots, cultivating all row crops, and plowing under sweet clover and field peas.

Maximum temperature 94, Minimum 51; Precipitation 2.73 inches.

JUDITH BASIN:

Cool, cloudy, unsettled weather with showers continued during the past week. The highest precipitation was received on the 4th. This storm was accompanied by hail in some sections of the Basin, but no hail fell at the station. The hail covered an irregular strip forty miles in length and twenty miles in width extending from Stanford on the west to Danvers on the east and in general following Sage Creek. Winter wheat was badly damaged but the total extent of damage to spring wheat has not been determined.

All crops at the Station have made a pronounced improvement. Winter wheat is fully headed. Spring wheat is developing exceptionally well with prospects for good yields. On some methods of tillage the stands are irregular. The same condition prevails in some fields in the Basin and this may cause some difficulty in combining at harvest. Oats are heading out fairly short and irregular in height. Barley is making a good growth.

The weather has been cool for corn but with present favorable moisture conditions good stands have developed. Alfalfa and grasses continue to improve. Pastures are showing a marked improvement and ranges are developing in good shape.

Visitors during the week included F. A. Coffman, Associate Agronomist in Oat Investigations.

Maximum temperature 75, Minimum 43; Precipitation 1.09 inches.

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DRY LAND AGRICULTURE INVESTIGATIONS

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U. S. DEPARTMENT OF AGRICULTURE

JUL 14 1928

REPORT FOR THE WEEK ENDING JULY 14, 1928.

HAVRE:

The past week was quite favorable for all crops. Temperatures especially the minimum were above normal with the wind movement during the day slightly high. Rather severe hail storms were reported in certain sections.

Practically all spring grains are headed with the earliest winter wheat beginning to turn. Corn grew quite rapidly and now shows promise of making good height. It has been cultivated once and should be ready for the second cultivation.

Alfalfa on dry land is making a very good second cutting. Spring rye and oats are about ready to cut for hay.

The annual Club Camp was held at the station from the 9th to the 12th, with a farmers' picnic on the 12th. The attendance at the club camp was about 75 and the attendance at the picnic was about 1,200. The Mother's Recreational Camp started the 13th and is finished today. About 40 are in attendance.

Mr. L. D. Kurtz who took the place of A. J. Ogaard as Extension Agronomist in Montana, was at the station on the 12th and 13th. A number of County Agents have been here for the camp and picnic.

Maximum temperature 93, Minimum 48; Precipitation .10 inch.

JUDITH BASIN:

Moderately warm weather with a good supply of soil moisture has been very favorable to all crops during the past week. A high wind of short duration on the evening of the 13th whipped some of the early maturing wheats, but the damage will apparently not be of great extent.

Winter wheat is fully headed and beginning to turn in the early seedings. Spring grains are developing rapidly with wheat and barley showing to good advantage. Corn is still very backward, and the yellowing due to cool backward weather is not entirely overcome. Potatoes are making rapid growth.

All forage crops are developing in good shape. Sweet clover has been harvested and yields for the first crop are lower than usual due to the early dry weather. Alfalfa is developing with one good crop being in prospect.

All row crops have been cultivated. Summer fallow has received a second duckfooting. The method of tillage test was given the various treatments. Pasture blocks are making rapid growth.

Judith Basin, cont'd.

Mr. D. A. Savage, formerly Assistant in Agronomy at the North Montana Station, arrived at this station the first of the month to take charge of the forage crop work. A group of thirty-five representatives farmers from the various communities in Fergus County visited the Station on the 12th and were highly interested in the various experiments.

Maximum temperature 80, Minimum 43; Precipitation .09 inch.

HUNTLEY:

The past week has been much warmer than have the preceding ones. Although temperatures have not been especially high, the humidity has been such as to make the heat very oppressive. Where soil moisture was available all crops, especially corn and sorgos, made a good growth.

Winter wheat is ripening fast and harvest operations are under way throughout the community. In the experimental plots winter wheat on low moisture methods, such as continuous cropping and corn land, is ready for the binder, while that on fallow is still somewhat green.

Field work has been possible every day during the past week and considerable progress was made in cleaning up the plots which had become very weedy during the stormy weather of the last month. Fallows, roads, alleys, and row crops were cultivated and hoed; peas in the green manure rotations and the late fallows were plowed; plots were rogued, and the winter wheat nursery was harvested.

Maximum temperature 93, Minimum 49; Precipitation .15 inch.

SHERIDAN:

The week has been considerably warmer than for some time past, and mostly fair. The remainder of the hay that was down has been hauled. A field of volunteer rye was cut during the week and rye seeded last fall will be ready to harvest early in the coming week. The volunteer rye was on land intended for summer fallow, but as there turned out to be a fair stand of rye it was left to ripen. Peas were turned under for green manure and a late plot of fallow plowed, all of it being disked. All row crops were cultivated and summer fallow cultivated with the duckfoot cultivator. Some of the row crops also were hoed. The growth of peas for green manure was the heaviest yet grown here and the peas were turned under with difficulty.

All vegetation made a fast growth during the week. Where cut early the second growth of alfalfa is beginning to bloom, and the hay crop probably will be better than the first cutting. Oats lodged considerably during the rains of last week, but have straightened up again fairly well. Durum wheat and some of the barley are still lodged badly.

Maximum temperature 85, Minimum 46; Precipitation .39 inch (.35 of this a continuation of last week's rain on the 7th)

MANDAN:

Agronomy.

Field work was delayed the early part of the week because of rains.

Hay that was cut has been dried and hauled in. Part of it was injured by the rains. The yield will be very good. Part of the alfalfa hay along the coulee will make better than 2 tons per acre. Field P has not been cut, but will be next week if weather is favorable. The crop will be very good. The field was badly dried up before the rains came. Sweet clover and alfalfa planted this spring in the South field are ready to cut, and will make a good crop. This is very unusual.

Corn was cultivated during the week. Weeds are making a rapid growth at present.

Maximum temperature 81, Minimum 50; Precipitation .69 inch.

Cooperative Grazing Experiment.

Pastures remain in excellent condition for grazing. Sweet clover made a rapid growth during the week, and has now nearly reached its maximum growth.

Horticulture.

Early cauliflower, Jersey Wakefield cabbage and Notts Excelsior peas are at their best at the present time, and yielding well. Wax beans are being picked for the first time today, and carrots and beets are ready for bunching. Early potatoes are also ready for table use.

Hedges in the testing block have been sheared, and grounds in general groomed. The growth of grass and shrubs is very luxuriant after the late rain, and extra care is needed to keep lawns and hedges looking neat.

Juneberries are now being picked. The Success Juneberry is yielding well and looks very good this year. Chinese cherries are also ripe, but are not yielding as heavily as last year. The white selection of this fruit is yielding well, and the fruit is of good quality and fair size.

Blight is bad after the recent rains. The third spraying of the year will be finished today.

Mandan, cont'd

Arboriculture.

The Extension Foresters' Conferences, noted in last week's report, has been completed. Thursday forenoon was spent in a general survey of the work at this station. Twenty State and Federal officials, and two representatives of the National Nurserymen's Association, took part in the conference. Mr. Norman M. Ross, In charge of the Canadian Tree Planting station at Indian Head, Sask., and Mr. W. R. Leslie, Superintendent of the Dominion Horticultural station at Morden, Manitoba, were also in attendance.

Recent rains have stimulated the growth of seedlings in the shelterbelt nursery. Inspectors are finding the roads in poor shape in many places on account of rain, which is, however, having a very beneficial effect on the new tree plantings. So far the reports show the tree plantings in very good condition.

The number of farmers visiting the station this past week has been exceptionally heavy. While probably the greater number are from the middle west, quite a few are from Wisconsin, Iowa, and states further away. Dr. David Fairchild, Foreign Plants Introductions, was here all day Tuesday, looking over the work of interest, and Mr. A. C. Dillman, Seed Flax Investigations, and Lytton W. Boyle, Flax Diseases, (Fargo) arriving this morning, expect to leave in the late afternoon.

BELLEFOURCHE:

The week has been moderately warm with thunder showers threatening nearly every afternoon, but only a couple of light rains were actually received. Soil samples taken July 13 show a good supply of moisture to be present in the soil, and all crops have made a good growth. Winter rye, barley, and oats are beginning to ripen, and most of the small grain which lodged during the heavy storm last week has come up sufficiently to permit harvesting with a binder.

Thinning of corn, sorgo, and potatoes and hoeing of all row crop plots was completed during the week. Green manure and fallow plots were cultivated. Alleyways were cultivated, roads cultivated and dragged, and a number of grain plots were rogued in preparation for the annual farm picnic next week.

Maximum temperature 85, Minimum 50; Precipitation .04 inch.

ARDMORE:

The weather during the week was hot and dry.

All small grain other than that sown on fallow is suffering from drought. Flax on brome sod is firing badly with many plants entirely dead. Winter rye, winter wheat on disked corn, and all oat fields are ripening. Some early strains of oats in the variety test block are ready for harvest.

The annual farmers' picnic was held on the 13th. About 1,000 people were present. Hon. Louis N. Crill, State Secretary of Agriculture gave the address of the day followed by a talk by Hon. Wm. Williamson, Congressman of the third district.

The success of the day was somewhat marred by a thunder storm in the afternoon.

Maximum temperature 91, Minimum 51; Precipitation .58 inch.

ARCHER:

The weather has continued warm and dry. Row crops have not suffered but drilled crops have burned badly where growth was rankest, this being especially true of winter wheat. The prairies are turning brown and the dairy cattle are rather indifferent about going out to pasture.

Work at the station has consisted of the cultivation of row crops on the Dry-Land plots and in the dairy field. The 17 acres of winter rye, which averages about 5 feet in height, is being put into the silo. This work has progressed slowly due to difficulties encountered not common with such crops as corn and sunflowers. It is hoped to overcome this difficulty with the arrival of repairs. The cement silo is about three-fourths full and only about half of the field has been cut. This silage will supplement dry pastures.

During the last few days thunder storms have been frequent in this region. Last night a shower totaling 0.29 of an inch occurred. The wind has been rather low necessitating the use of the engine for pumping water.

Maximum temperature 86, Minimum 45; Precipitation 0.34 inch.

NORTH PLATTE:

Weather conditions have been more favorable this week than during the week preceding. Temperatures have averaged considerably lower and two showers brought .75 inch of rain. Winter wheat on the rotation plots has all been harvested. Barley plots were cut today. Oats are ripening rapidly and will be harvested during the coming week.

The dedication of the new Thirty Mile Irrigation Canal in Lincoln and Dawson Counties on July 13 brought a number of visitors to the station, among whom were Mr. F. A. Woods, Director of Scientific Work of the U. S. Department of Agriculture, and Mr. W. W. Burr, Director of the Nebraska Station.

AKRON:

The weather has continued warm during the week with only light showers of little or no consequence. Rains have been prevalent over the country side with numerous damaging hail storms reported. The row crops and the late seeded sowed crops such as the millets have responded wonderfully. Corn is showing excellent color and is now nearly waist high. Beans have bunched so that the rows now show solid across the plots.

Many of the later varieties of oats and barley and spring wheat have burned slightly. They are ripening prematurely and there is not the promise of a full plump berry.

Timme and Richmond cherries were picked during the week. Bird damage to the Timme was very heavy. The Timme produced about one-third average crop while the Richmond variety did not produce more than one-tenth average crop. Montmorency promises three-fourths to full crop but is ripening very unevenly.

The pigs were weighed this week end and the pasture lot transferred from the spring sown fall rye to the Sudan grass pasture.

All experimental plots except the General Forage Variety, the Corn and Bean variety experiments were staked during the week. The increase Rosen rye was harvested, and it is planned to harvest the increase Tenmarq winter wheat this afternoon. The spring sown hay crops in the Forage Variety Experiment and the mixed oat and barley for hay on the forage variety ground was harvested during the week. The variety corn and the silage corn, and the rotation corn plots were cultivated this week end.

Akron, cont'd.

Professor Hanson, Mr. Ball, and Mr. Stinson, of the Agricultural College, have been here the most of the week making studies on the native-sod sheep pasture.

Superintendent E. F. Chilcott, Superintendent B. F. Barnes, and Professor John H. Parker, of the Kansas Agricultural College, made a hurried visit to the Station Tuesday morning.

Mr. F. A. Coffman, of the Department, and Professor Robertson, of the Agricultural College, visited Wednesday.

About 30 businessmen of Akron visited Thursday afternoon and were shown the many diverse lines of investigation being conducted.

Professor Geo. E. Morton and Mr. Fred Leinbach, of the Agricultural College, visited Friday.

Maximum temperature 94, Minimum 45; Precipitation .65 inch.

COLBY:

This week gave fairly favorable weather conditions for the harvest of the small grains. All barley and winter wheat plots were harvested. Most of the oat plots were harvested. Small showers, with wind, which fell on three nights during the week, caused the oats to break over quite badly. The straw on these plots that did lodge during the showers was dried out by the two days of wind during the previous week. The quality of the oats on those plots that suffered from the wind is going to be very poor. The quality of the winter wheat is going to be good and the yields are going to be as great as anticipated.

Spring wheat is going to be a very poor crop because of premature drying. The quality of the spring wheat is going to be poor as well as the oats.

Thinning was accomplished on the sorghum varieties and on the kafir D. L. A. plots.

Mr. E. F. Chilcott visited the station the first of the week.

Maximum temperature 98, Minimum 53; Evaporation 1.950 inches; Precipitation 0.89 inch. Average hourly wind velocity 5.5 miles.

HAYS:

Rains have continued to occur through July to date at irregular dates, but the rains have not been nearly so heavy as during June. The total of three showers during the week amounted to 1.06 inches. Generally the temperature has been moderate ranging between 58 and 98. The dry days of the past ten have been spent harvesting. Other days too wet for harvest but not for cultivation have been used to advantage cultivating row crops and fallows. The weed problem has been rather a large one this year because about the time a crop is plowed or cut out with weeders, a rain has followed affording the weeds the best possible chance for a good recovery, and from the looks many of the weeds have availed themselves of the opportunity.

The oats and barley on the project are in the shock, and 236 plots of winter wheat have been combined and the grain is sacked and in the seedhouse. The winter wheat would have been finished today but for a small shower last night followed today with cloudy damp weather which kept the wheat too damp and tough for combining. Spring wheat is now ready for the binder. It is of very good height as were all the other small grains, but is not so well filled. Winter wheat yields are running very high, a good many plots yielding 50 bushels and a little better. Not more than a dozen of the plots, as it now appears, will yield less than 25 bushels.

The combine used for harvesting our wheat plots is one that was rigged up in our shop on the station. In brief, it consists of a two ton caterpillar tractor, a gleaner combine, and a Ford motor. The caterpillar furnishes transportation and the Ford motor furnishes power for the combine. Both the combine and the Ford motor are mounted on the caterpillar so it carries all the weight, there being no trucks or wheels touching the ground other than the Caterpillar. This sort of a combination enables us to turn short enough to get around in the 16½-foot roads, and the cutting bar of the combine moving in front of the tractor makes it possible to harvest the small grain along side a row crop plot without injuring the row crop, or any other crop where the alleys between plots are 3½ feet.

While the machine can yet be considerably improved, it was quite satisfactory in spite of the fact that the wheat was badly lodged on many of the plots which made it necessary to cut low and handle an immense amount of straw which made it necessary to move very slow.

Garden City:

Four rains totaling 2.7 inches prevented the accomplishment of much field work during the past week. Tho total rainfall since May 1 now amounts to 18.57 inches and the total since January 1 is 22.04 inches.

Crops as well as weeds are making good use of the moisture and everything is growing rapidly. Field work during the week consisted of spreading grasshopper poison, thinning plots, and cultivating a part of the fallow plots.

Much combine wheat is now reaching the local market. Test weights are running high and protein content is about normal or a little below. Rains have kept many farmers out of the fields and some wheat has lodged.

Mr. E. F. Chilcott was a station visitor Wednesday and Thursday.

Maximum temperature 100, Minimum 60; Precipitation 2.7 inches.

DALHART:

The past week has not been so hot as the week previous. Rain has threatened several evenings just about dark, with slight results on two occasions and a good rain on the last. Other times the wind blew a while, it thundered some, and the clouds drifted on to other parts. There has not been so much wind during the week as has prevailed over the past two or three weeks. No hot winds were recorded, although the field corn began to show signs of the dry weather. Last night, (Friday) clouds began to gather early and by 8:30 it began to rain just a little. After the first shower the wind changed and came up. With this change, "the wind coming out of the north," it looked very much like hail. It was quite cool with a heavy wind which lasted about two hours, during which time a heavy rain was recorded. No hail was recorded at the station and none reported near by. More rain was recorded during the night which brought the total to 1.20 inches. This rain was needed for the early planted row crops, (corn especially), but was not needed on the wheat.

The cultivating of all crops and fields was finished this week. The plots and fields as a whole are clean; however, there are a few scattering weeds which will have to be taken out with the hoe. These are growing in the row and could not be gotten with the cultivators. The oats plots were harvested this week, also some increase Club Mariout barley, and a small block of winter barley. Soil samples weretaken on the C. C. milo plots to a depth of 6 feet. Moisture on these plots is still good down to a depth of 4 feet. This good rain will of course make a better showing in the first foot at least. Thinning of the grain sorghum varieties and dates was finished early this week. Thinning was started on the forage sorghums, "stand 6"inches in row," as soon as the grain sorghums were finished. This thinning would have been finished today but for the rain. It will have to be carried over until the first of the week.

Dalhart, cont'd.

Winter wheat harvest is in full swing in this section. Wheat is making just a little more than was expected, some of it going over 30 bushels. In some localities, "especially on the more sandy types of soil," the stands were thinned out considerably. Wheat in these areas is making from 10 to 15 bushels. In a few areas a good stand survived the winter and died out during April. All of the wheat is being combined this year. A few farmers who had headers did not go to the trouble to get them in shape as the threshing possibilities were very doubtful. Combines are doing custom harvesting in this section this year, the price ranging from $2.50 to $2.75 per acre. Trucks are used to haul the wheat to market, the charge being 1 cent per mile per 100 pounds. The price of wheat is ranging close to $1.15 per bushel in this section. The test is high, some going as high as 63 pounds as the quality is No. 1.

Crops on the station are growing in excellent shape. The field corn, which was planted seasonably early, is the only crop which was showing signs of need of moisture. This crop curled considerably during the heat of the day. All other crops had plenty of moisture to go on and will be benefitted greatly by this rain and a little cooler weather.

Some of the trees are being sprayed today to kill the worms which are getting too numerous for comfort. This consists chiefly of mule-ear poplars which are being worked on by the tobacco worm. Some spraying will also be done today for red spider on a few evergreens and some willow. It may be necessary to do some spraying in the vineyard a little later to kill the worms. Up to this time they have not attacked the station grapes. In Dalhart, the worms have been working on grape vines for two months. People have been calling the station for a remedy, so that by now they are pretty well cleaned up.

The station vineyard has come into its own this year. If nothing happens within the next 45 days, a bumper yield will be obtained. A damaging hail storm is about all that is likely to occur to cause damage to the grapes.

Maximum temperature 99, Minimum 57, Precipitation 1.33 inches.

TUCUMCARI:

Crops obtained relief this week from the excessively high temperatures, and rains near the close of the week enabled them to continue or resume growth just when the drought had become critical.

Work has consisted of cultivating, completion of thinning cooperative plots, and miscellaneous work such as completing trimming plot ends, working orchard and vineyard and mowing roads.

Maximum temperature 100, Minimum 64; Evaporation 2.426 inches; Precipitation 0.94 inch; Wind velocity 5.0 m. p. h.

WOODWARD:

Thinning of sorghum crops was completed during the week, and miscellaneous cultivation accomplished. The second crop of alfalfa was cut and hauled, being exceptionally good. Johnson grass was sprayed with sodium chlorate in an attempt to kill it. A few cowpeas and sowed feed were planted. Much hoeing was done. Wheat and rye plots on rotations were threshed.

The frequent showers interferred with all farm work, and has been a serious worry to farmers harvesting wheat. However, by working every hour when wheat and soil were dry enough, most of the wheat has finally been combined without much loss.

Maximum temperature 101, Minimum 62; Evaporation 2.096 inches; Precipitation .91 inch; Average hourly wind velocity 6.1 miles.

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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JUL 21 1928

REPORT FOR THE WEEK ENDING JULY 21, 1928.

HAVRE:

Favorable growing weather for cereals and grasses continues. Light to heavy showers in the immediate vicinity throughout the week were reported generally, and temperatures for the most part were about normal. The manner in which wheat, oats, and barley are filling indicates that exceptionally high yields are to be expected. Some of the commercial station fields of wheat and barley on fallow are lodging.

Contrasts between tillage methods on D. L. A. rotation plots occasion much comment by visitors. Fallow plots of small grains are easily picked out with disked corn ground, spring plowing and fall plowing ranking in the order named, which is in agreement with the 10-year average for these methods.

Harvesting dry-land grasses, hoeing, rogueing seed plots, and cultivating miscellaneous plots consisted the principal field work for the week. Winter rye on fall plowing was harvested. Thin stands and considerable weediness characterized the plots, but the spikes were well filled and the grain was plump.

Maximum temperature 90, Minimum 49; Precipitation .55 inch.

JUDITH BASIN:

Rain fell during five days of the past week with two of the storms averaging more than half an inch. Some hail accompanied the rain on the 19th. Slight damage on the leaves of corn was noted, but other crops were not injured. More damage was reported from scattered areas in other parts of the Basin. The cool weather has favored the growth of all crops except corn.

Spring grains are looking exceptionally favorable with all crops being above normal in height. Early seeded winter wheat is still in poor condition and low yields will be harvested. Medium and late seeded fields are normal.

All forages have made a good growth. The weather has been very unfavorable for harvesting the first cutting of alfalfa and sweet clover. Damage to these crops has occurred. The abundant moisture has favored pastures and range conditions, and they are in good condition for this season of the year.

Judith Basin, cont'd.

Fallow, corn, and all row crops have been cultivated. All grains are being rogued. Sweet clover in the pasture blocks was clipped in order to make the best feed. This crop has demonstrated exceptional pasture value during this season.

The nineteenth annual Judith Basin Farmers' Picnic held at the Station on the 19th surpassed all former events in numbers and interest. An estimated group of eight thousand from all sections of Central Montana spent a full day in spite of the rain which soaked the grounds in mid-afternoon. During the forenoon groups visited the experimental fields and studied the Educational and Farm Machinery exhibits. Speakers for the occasion were Chester Davis, former State Commissioner of Agriculture, Director F. B. Linfield, and ex-congressman Tom Stout.

Visitors during the week included a farm tour from Pondera, Teton, and Cascade Counties and another organized farmers' tour from Blaine, Phillips, and Valley Counties. State visitors in the Extension Service were L. D. Kurtz, Legge, Clarkson, Mountjoy, Lantz, and Noble. George Morgan, Louis Vinke, and Director Linfield are also included in the visitors for the week

Maximum temperature 74, Minimum 45; Precipitation 1.35 inches.

HUNTLEY:

Good growing weather has prevailed throughout the past week. Temperatures have been seasonably high and showers have occurred almost every afternoon or evening. Corn has made the most noticeable progress of any of the late crops and is now nearly all tasselled out. Stands of beans and sorgos are now about perfect as to number, but the crops themselves are very uneven in growth due to the irregular emergence of the seed. Some beans are beginning to set seed while others are just putting out their first leaves.

Winter wheat was harvested during the latter half of the week. Oats, flax, and barley are nearly ready to cut but spring wheat is still green. All crops show a very marked contrast between the various cultural treatments this season. Some plots of winter wheat were so heavy as to be partially lodged when cut, while others had such a short and thin stand as to be harvested with difficulty with the binder. Fall plowing has produced a taller growth of nearly all crops than has spring plowing, this year, but it is doubtful if there will be much difference in grain yields between the two methods, judging from present appearances. On the 17th this station was visited by about 150 farmers from various parts of the State on an agricultural tour arranged by the Montana Extension Service.

Maximum temperature 97, Minimum 49; Precipitation .56 inch.

MANDAN:

Agronomy.

Frequent rains the past week have interfered with all field work. Haying has been further delayed and some hay damaged in the cock and swath. About two-thirds of Field P was down before the heavy rain of the 20th.

The heavy rain of the 20th caused a good deal of washing in all fields and many plots were lodged. Some of the plots were flattened by the rains earlier in the week, and it is doubtful if some of them will straighten up.

Corn has made a good growth and some of it is starting to tassel. Field work is several days behind because of the delays by rains, two of which were accompanied by a strong wind.

Rainfall for the week was as follows: July 15, .09; 16, .04; 17, .14; 19, .68; 20, 1.05; 21, .02. The rainfall for July to date is 4.85 inches, which is the second largest amount recorded for July during 53 years of record for this area. The rainfall for the year is now about 1.50 inches over the average. A very heavy rain between here and Dickinson washed out about 500 feet of track on the Northern Pacific Railway.

Maximum temperature ,91, Minimum 54; Precipitation 2.02 inches.

Cooperative Grazing Experiment

All pastures continue in excellent condition for grazing. There is a heavy growth of sweet clover in that pasture and much more than one steer to two acres can use. Blue grama grass is headed out all over the prairie much more than usual. It is the heaviest heading of this grass since 1915.

Arboriculture

Reports so far received from shelterbelt inspectors indicate that the 5 and 10-year old plantings are in excellent condition, but that on account of considerable losses of Russian olive and Chinese elm, many of the 1928 plantings are only fair. Spruce, which made up the bulk of conifer shipments this year, appears to have been very successful, with practically perfect stands in all plantings visited to date. On account of the frequency of rains, cooperators are finding it almost impossible to keep their tree ground entirely free from weed growth.

Visitors of the week included Mr. J. Allen Clark, Cereal Crops and Diseases, and Mr. H. L. Westover, Forage Crops.

ARDMORE:

The weather during the week was hot and sultry. A heavy thunder storm with a dashing rain and high wind came on the 19th doing some washing in the row crops and causing the ranker growth grain plots to lodge. Field work was halted for the balance of the week.

Corn, sorgo, and millet crops made a rapid growth during the week with some spots of millet showing a droughty condition. The early varieties of corn and corn on the rotation plots have tasseled.

Winter wheat and some spring wheat plots were beginning to ripen. All oats with the exception of some plots on spring plowing became ready for harvest. Twenty-six plots and about sixty acres of oats were harvested.

The pigs on self-feeder experiment were weighed at the end of the second period on the 19th. The gains per head made by the different lots during the fourteen day period are given below:

I	Corn, tankage, oil meal on dry lot	25.0
II	Corn, tankage on dry lot	20.0
III	Corn, tankage, oil meal on alfalfa pasture	25.1
IV	Corn, tankage on alfalfa pasture	24.0

Maximum temperature 94, Minimum 54; Precipitation 1.53 inches.

ARCHER:

During the past week the weather has been favorable for farm operations. During the afternoon of July 18 a shower of 0.61 of an inch occurred. This amount was sufficient to temporarily relieve drought conditions. Generally the thunder storms have been frequent, covering considerable territory. Therefore the prevailing crop conditions in this section are good.

At the station all drilled crops were burned quite severely before the rain of July 18. Some of the winter wheat plots had fired nearly to the head. Row crops generally, while in need of rain, were not severely damaged.

Work at the station has consisted of weeding, finishing the filling of the silo and hauling the winter supply of ocal.

Maximum temperature 86, Minimum 55; Precipitation 0.76 inch.

NORTH PLATTE:

Rain on four days totaled 3.14 inches. Two inches of this came in a single rain last night. The total for the month to date is now 4.33 inches, which is 1.65 inches in excess of the July normal.

Harvest has progressed slowly. A binder equipped with a supplemental engine has been run intermittently. Fields have been too wet to allow an ordinary binder to operate.

Farmers who are waiting to harvest with combines are already considerably late. The delay is unfortunate as many of these machines have large acreages to cover.

AKRON:

The entire week has been devoted to harvesting. A rain of 1.85 inches Tuesday afternoon interferred with the running of the binders Wednesday, but good time was put in on the Small Grain Nursery.

This was the heaviest single rain falling within a comparatively short time experienced yet this season. It beat down the heavier plots of winter wheat and oats and made harvest more difficult and tedious by causing soft ground and by necessitating cutting in one direction. It was absolutely necessary to pick out the higher ground of the different projects until Saturday in order to keep the binders moving at all.

Many of the oats plots harvested today besides being down were so heavy that the binding apparatus would only handle the straw from three and one-half to four feet of the cutting area of the sickle bar. By consistent plugging the most of the harvesting except the winter wheat plots of the different projects has been accomplished by this week end. Winter wheat is dead ripe, and would have harvested better a few days earlier. It is felt that the two binders will complete the harvest in from two and one-half to three days early next week.

The millets and the different warm weather row crops are responding to the season admirably. Beans are nicely bunched and are beginning to bloom. Millet is breaking into head. Corn is beginning to tassel. Prospects at this time of the season are seldom more promising for a good corn crop.

A devastating hail storm reached to within four miles of the northwest corner of the station on Monday afternoon.

County Agent James Foster visited the station Wednesday afternoon. Mr. John W. Sjogren of the Agricultural College has been here the past ten days supervising the harvest of the Cereal Small Grain Nursery.

Maximum temperature 94, Minimum 57; Precipitation 1.96 inches.

HAYS:

Generally the weather during the past week was warm and damp. The temperature did not average high, but was sultry. Although there was no rain to measure during the week until the morning of the 21st, when the 1.32 inches occurred, the nights were very damp, the mornings, cloudy and generally quiet, were also damp making it very poor harvest weather either for combines or threshers. Combines could not start until late in the forenoon. There is still about 20 per cent of the wheat to harvest in this locality. The experiment station will about finish combining wheat in one more day, but has several days of work in the barley fields.

During the week combining of winter wheat plots was finished, spring wheat was harvested with binder; oats, barley, and spring wheat was threshed. A small amount of tillage work was done and a small run was made in soil sample work.

Corn is about 4 to 4½ feet high; kafir and milo about 18 to 24 inches; and all these crops are making very good growth and looking very fine at this writing.

The experiment station threshed one quarter section of wheat that averaged 49.7 bushels per acre. The ground was prepared by fallowing.

Maximum temperature 98, Minimum 60; Precipitation 1.32 inches.

GARDEN CITY:

All crops have made satisfactory growth during the past week. Temperatures have been fairly high but wind velocity was low.

Oats and barley on the dry land project were harvested Thursday. Wheat harvest in the surrounding territory is in full swing. Yields of forty bushels to the acre and higher are not uncommon.

The writer drove through the counties of Haskell, Stanton, Grant, and Morton the first of the week. That territory is producing large amounts of wheat this year. Seedbed preparation for the next wheat crop is already under way. Some farmers are pulling combines with their tractors by day and pulling plows, listers or one-way disks by night. Some fields are completely tilled within a few hours after the harvest is completed

Field work on the project this week included the cultivation of all row crops and hoeing weeds in the rows and alleys.

Maximum temperature 98, Minimum 64; Precipitation .43 of an inch.

DALHART:

The past week has been hot with the exception of today. Three rains were recorded during the week which has checked the wheat harvest, but has greatly aided the row crops. These rains came up just before dark each day until Saturday, when it has rained at intervals during most of the day, a slow easy rain. The one occurring Friday evening just before dark was accompanied by a heavy wind and short periods of hard rain.

The plots were all trimmed to size this week and the ends plowed. Some cultivating was done in the vineyard, orchard, and other odd places this week. Soil samples were taken on the seed-bed preparations for winter wheat and on the four regular milo plots. The moisture this week shows up pretty good in the first 3 feet but the 4th foot and on are dry. The rains this week will help to increase the moisture content in the first foot at least. Considerable hoeing was done along roadways and on some early planted plots where the weeds were growing in the row with the crop.

Maximum temperature 95, Minimum 61; Precipitation 0.84 inch.

TUCUMCARI:

Although precipitation for the past two months is far below the 23-year average, crops have made good growth the past week as the result of cooler weather and occasional showers. The first ten days of July, with eight days maximum ranging from 100 to 105, were very severe on crops and range. Ranges are dry and brown, showing much less revival than row crops.

M. C. wheat and rye plots were threshed during the week, yields ranging from 2.1 bushels to 9.3 bushels per acre. Harvest in the county is practically over, most fields being combined, and yields will probably run from 12 to 14 bushels on the average. Rainfall the past eight months has been very local, so wheat abandonment and yields varied greatly in different localities.

Completion of thinning is under way and considerable cultivation was performed during the week. Early varieties of grain sorghums, planted May 15, are beginning to head.

Maximum temperature 98, Minimum 62; Evaporation 2.348 inches; Precipitation 0.30 inch; Wind velocity 3.9 miles per hour.

LAWTON:

Two weeks of hot, dry weather have created a demand for rain as a benefit to all of the sorghum crops. These crops are rank in growth and practically all headed. Heading developed under high temperatures and intermittent periods of hot winds. Birds are beginning to damage the early plantings and the plots are now being patrolled.

Cotton has grown rapidly and some blooms are present. Web worms have damaged a good many fields in the county, but the station cotton is free from the infestation so far. An application of lead arsenate used as a poison barrier was made on two fields near town with the power sprayer. The work was done in connection with the County Agent as a control demonstration.

Threshing of small grains was completed July 16. Practically all yields were better than was anticipated. The average yield of oats on 13 acres grown for feed was 33 bushels per acre. Oats on the rotation plots made an average yield of 34.2 bushels per acre. Oats yields in the rate and date project varied from 25.6 to 42.7 bushels per acre. A brief summary of the yields are as follows:

	Bushels
Average yield of 6-peck rate on all dates Jan. 30 to Mar.10	34.2
" " " 8-peck " " " " " " " " "	33.1
" " "10-peck " " " " " " " " "	33.2
" " " all rates seeded Jan. 30	39.2 bushels.
" " " " " " Feb. 5	35.6 "
" " " " " " Feb. 15	29.9 "
" " " " " " Feb. 25	29.4 "
" " " " " " Mar. 10	33.4 "

Winter barley on disked cowpea land yielded 16.7 bushels per acre and spring barley grown in the same manner made 13.8 bushels per acre.

The following results were obtained from the oats variety test:

Kanota No. 839	31.6	bushels per acre
Fulghum No. 6084	27.5	" " "
Fulghum No. 708-211	33.1	" " "
Frazier No. 2381	25.3	" " "
Fulghum, Station seed	33.8	" " "
Nortex No. 2382	40.3	" " "
Fergusson No. 922-1400	36.9	" " "
Fergusson No. 922-1401	36.3	" " "
Fergusson No. 1452	45.3	" " "
Burt x 60 Day	30.9	" " "
Burt No. 916	30.0	" " "
Colburt	26.6	" " "
Navarro	32.2	" " "

Lawton, cont'd.

Wheat grown on the rotation plots resulted as follows:

Previous crop:	Tillage	Yield per acre (Bushels)
Cotton	Drilled	15.6
Cotton	Drilled, topdressed	11.7
Wheat	Fall plowed	14.7
Oats	Fall plowed	19.4
Barley	Fall plowed	18.3
Cowpeas	Disked	19.3
Cowpeas	Disked, topdressed	18.2
Cowpeas	Green manured	23.5
Fallow		25.5
Fallow, topdressed		26.3
Fallow, manured		27.5

Wheat yields from continuous cropping on different methods of seed bed preparation were:

Late fall plowed, shallow	11.8
Early fall plowed, deep	16.3
Early fall plowed, shallow	15.7
Early fall plowed, subsoiled	16.3
Disked as needed	14.8
Disked at seeding time	10.2
Listed	15.5
Listed, manured	8.7

Winter barley varieties ranged in yield from 14.8 to 16.9 bushels per acre.

Maximum temperature 99 and 100 have been recorded daily the past week.

WOODWARD:

All wheat plots on the rotations to be fall plowed were plowed during the week. Practically all row crops except corn were given the second cultivation. Much hoeing was also done.

Because of large amounts of moisture in soil, sorghums and cowpeas are making a very rapid growth. Wheat harvest over the country is finally all cleared up, having been greatly delayed by rains up to the last week.

Maximum temperature 101, Minimum 67; Average hourly wind velocity 8.2 Miles, Precipitation 0.0 ; Evaporation 2.303 inches.

SHERIDAN:

The weather continued unsettled with frequent showers over the most of the week. No rain of consequence fell at the station, but showers were just sufficient to keep hay that was down from drying and to interfere with station work for short periods. Heavy rains with destructive hail were reported from nearby localities.

Winter wheat and some of the oats are ripening fast and probably will be ready to harvest the first of the week. The second growth of alfalfa also is ready to cut. As many as possible of the grain plots were rogued during the week. Fallow plots that were getting weedy and some of the roads were duckfooted. Hoeing of row crops also was completed.

The annual picnic of the local Farm Bureau was held at the station today. It was the first day of apparently settled weather since the 6th of the month, and a good attendance was recorded. Mr. Herbert King, President of the State Farm Bureau, Mr. W. L. Quayle, Mr. Oldroyd, State Commissioner of Agriculture, and Mr. Donald Sabin, State Extension Agronomist were the speakers.

Maximum temperature 89, Minimum 49; Precipitation .43 inch.

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OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JUL 28 1928

REPORT FOR WEEK ENDING JULY 28, 1928.
(Unless otherwise indicated.)

HAVRE:

Fine growing weather prevailed throughout the week just ended, the average maximum temperature being 87 and the average minimum 59 degrees. A shower on Saturday, amounting to .47 inch, will assist the filling of grains now ripening and will be of benefit to late planted fields.

Work during the week consisted of harvesting the dry land forages. Generally, the yields were much better than usual. Ladak alfalfa in rotation 42 produced a second cutting of about one and one-half tons per acre of field cured hay which was of very good quality. Brome grass in rotation 41 yielded about 1,500 pounds of field cured hay. The most spectacular performance was that of spring rye early seeded on fallow which produced 7,500 pounds of good quality forage. Spring rye on fallow during the three years just past has given some very remarkable hay yields and shows promise of becoming an important annual forage crop.

Station visitors included Mr. H. L. Westover, of the Forage Crops Office, Mr. J. Allen Clark, of the Office of Cereal Crops and Diseases, Mr. A. E. McClymonds, of the Aberdeen Field Station, Idaho, and Mr. B. B. Bayles, of the Judith Basin Branch Station, Montana.

JUDITH BASIN:

Clear days with fairly high temperatures and one light shower characterized the weather during the week. All crops made rapid growth.

Early seeded winter wheat fields are nearly ripe and light yields will be harvested. Medium late seeded winter wheat fields are developing in good shape with prospects for good yields on all the fields seeded later than September 1.

All spring seeded crops are developing rapidly. Spring wheat, oats and barley on the better methods are very promising. Flax on standard methods is good but very uneven on the poorer plats. Corn made a fair growth during the week but the season has been unfavorable to this crop. Prospects indicate that the crop will mature short in height.

The first crop of grass on the forage experiments was harvested and returned light yields. Alfalfa was also cut. The growth was uneven on the poorer methods.

The early grains for hay were cut with very good yields in prospect. Potatoes are making a normal growth.

Judith Basin, continued:

A farm tour from Fergus County studied the Station experiments on the 22nd. Visitors during the week were Professor McKee and Dr. P. A. Young, of the Montana Experiment Station, Mr. H. L. Westover, of the Office of Forage Crops, Mr. J. A. Clark and Mr. A. C. Dillman, of the Office of Cereal Crops and Diseases.

Maximum temperature 87, minimum 52; precipitation, .05 inch.

HUNTLEY:

The past week has been warm and dry with one or two hot winds that caused corn to wilt during the middle of the day. Weather conditions have been ideal for harvesting operations and most of the grain and flax plots in the rotations and the miscellaneous experiments have been cut. Plots not yet cut are ripening fast and will soon be ready for the binder.

Where moisture is available, beans and sorgos have made a rapid growth during the week. Sudan grass has reached the heading stage at a height of four feet, having made a growth of over one foot in the past seven days.

Threshing of winter wheat is under way throughout the community. Yields reported are higher than expected in most cases. Winter wheat on fallow, neighboring farmers report, is yielding from 20 to 35 bushels to the acre, and the quality is generally good.

Maximum temperature 97, minimum 52; precipitation, .10 inch.

SHERIDAN:

The entire week until the 27th was considerably warmer than any other previous period this season, with fair weather for six days in succession, from the 21st to the 26th, inclusive. The last two days were somewhat cooler and cloudy with a light shower the morning of the 27th.

All second growth alfalfa that was ready has been cut and hauled. All of this was gotten up with no rain on it except for the light shower on a small part of it. Second cutting of sweet clover also was hauled. A few early ripened plots of winter wheat, oats, and barley in the rotations were harvested, as well as a part of the rates and dates-of-seeding and varieties of winter wheat.

A trip by auto was made to the State Station at Gillette, Wyoming, the 26th. All crops along the way were excellent except for some stretches damaged by hail.

Mr. J. A. Clark was at the station Wednesday, July 25.

Maximum temperature 93, minimum 49; precipitation, .10 inch.

DICKINSON:

The weather was favorable for the ripening of grains. Early grains are nearly mature and harvest will begin the first of next week. In the immediate locality, maturity has been hastened by the lack of water in the soil on some methods of preparation. Yields, however, will be somewhat above average, and in most cases above those of 1927.

Stem rust was first noted on wheat on July 23, a few days later than the first infection was noted in 1927 and about two weeks later than it is usually found. No effect on yields is probable except a few very late fields.

The second cutting of alfalfa was made during the week. Yields were from about three-fourths to one ton to the acre and were about three times as much as the first cutting.

The April 20 seeding of flax is about mature. All flax on the station is better than in 1927, and should yield well above average.

Visitors since the middle of July have included President J. L. Coulter and Director P. F. Trowbridge, North Dakota State Agricultural College, Mr. W. P. Baird, of the Northern Great Plains Field Station, Mr. H. L. Westover, Office of Forage Crops, and Messrs. J. A. Clark, F. A. Coffman, K. S. Quisenberry, and A. C. Dillman, of the Office of Cereal Crops and Diseases, U. S. Department of Agriculture.

Maximum temperature 93, minimum 49; precipitation, .15 inch.
Precipitation to date in July, 3.52 inches.

MANDAN:

Agronomy

The past week has been favorable for all field work. Most of the period has been spent in haying. The remainder of field P was cut and most of it hauled in. The last cutting was put up without rain. Blocks and plots were cut in the south field.

All fallow plots were worked with the duckfoot cultivator; weeds were coming rapidly on most plots.

Corn in the plots is fully tasselled. The usual work of bagging for self-pollination in the corn breeding block has been started.

Maximum temperature 90, minimum 46; precipitation, Trace.

Cooperative Grazing Experiment

The usual summer photographs were taken during the month.

Mandan, continued:

Cattle are all looking good and should show heavy gains for the month.

Blue grama grass is headed out more than usual. In many places it will make from 5% to 10% of the hay, which is very exceptional. In the 50-acre pasture it appears as nearly a solid mass of heads.

Horticulture

Gooseberries have been picked. The yield was so light as to be almost neglibible. Raspberries have been picked twice and are ready to be picked again. The yield is fair with fruit of good quality. Other fruit ripening at the present time are chokecherries and sandcherries.

Vegetables are yielding well. String beans are very abundant and of excellent quality. Early cauliflower, cabbage and peas are now past the peak of yield, with only a few stragglers left.

The first picking of tomatoes from the acre garden was had on the 25th. In the variety test three varieties have yielded ripe fruit since the 20th. Sweetcorn, especially Gills Ea. Market and Sunshine, are fast filling out and should be in roasting ear stage early next week.

Orchards and gardens have been cultivated during the week and are being hoed.

Bagging of sweetcorn selections in the breeding plot has been in progress during the week.

Arboriculture

Absence of rain during the week has made it possible to cultivate the shelterbelt nursery stock, and complete the picking of caragana seed. Trees of all ages are responding to the ample supply of moisture. The finest lot of green ash and caragana 2-year seedlings we have ever had for shelterbelt demonstrations are in prospect for next spring.

Shelterbelt inspectors report old plantings in excellent condition and crops good to excellent. Dry weather up to June 11 has made a very noticeable reduction in the stands of Russian olive and Chinese elm in the 1928 plantings. Reports continue to show a very high per cent stand for spruce.

Mandan, continued:

Visitors of the week included Messrs. M. A. McCall and J. Allen Clark, Cereal Crops and Diseases, from Washington, D. C., and Ralph Smith, from Dickinson, N. Dak.; F. A. Coffman and K. S. Quisenberry, Cereal Agronomy; H. B. Humphrey, Cereal Rust; J. R. Dawson, Dairy Cattle Breeding; W. E. Sprecher, County Agricultural Agent, La Crosse, Wisc., and Miss Marion A. Griffiths, Cereal Pathology.

BELLE FOURCHE: Week ending July 21, 1928.

The week has been quite warm, and thunder showers have occurred nearly every day. Conditions have been very favorable for a rapid growth of corn, sorgo, and potatoes. Hay crops, however, are suffering from lack of moisture. The second crop of alfalfa was harvested the last of the week, but the alfalfa was so short that the yield of hay will be even less than from the first cutting. All small grains are making good progress and apparently have sufficient moisture available to mature normally. Oats, barley, and winter rye are practically ripe, and spring wheat and flax are beginning to turn color.

The boys' and girls' club camp, and the annual farm picnic were held at the station during the week. Approximately 100 club members took part in the camp, and the attendance at the picnic was a little larger than usual. Participants in the picnic speaking program were Governor Bulow, Congressman Williamson, and Mr. A. C. Cooley, of the Office of Demonstration on Reclamation Projects.

Maximum temperature 90, minimum 54; precipitation, .59 inch.

BELLE FOURCHE:

The most distinctive climatic feature of the week was a heavy rain on July 23, when 1.16 inches of precipitation were received in less than an hour. A strong wind accompanied the storm, and much of the standing small grain was lodged. Spring wheat on a number of plots is so badly tangled from lodging caused by storms and strong winds from different directions that it is doubtful if the grain can be harvested with a binder. Harvesting of oats and barley is almost completed, but one of the oat plots was down so flat it had to be cut with a mower.

Blackbirds, sparrows and other birds have congregated in large flocks on the station and are doing considerable damage to oat and wheat plots. Poisoning and shooting have been resorted to in an effort to protect the crops, but, considering the large number of birds, neither method has been very satisfactory.

Bellefourche, continued:

President F. W. Sargent and Vice-President A. C. Johnson, of the Chicago Northwestern Railway, visited the station on July 23 and made an inspection tour of the plots.

Maximum temperature 91, minimum 55; precipitation, 1.26 inches.

ARDMORE:

The weather during the week was hot and dry. Field work was carried on every day with the exception of Saturday.

A thunder storm with an abnormally high wind velocity and no precipitation came during the night of the 26th, breaking off some corn and sorgo plants, scattering a number of shocks in the grain fields and doing some damage to vine crops and tomato plants in the garden. A rain of .70 inch fell Friday night.

The harvesting of oats and barley fields was completed during the week. Some plots of oats on spring plowing in the rotations and some of the later varieties in the variety test plots remain to be harvested. About half of the winter wheat plots are harvested. Spring wheat is ripening and will be ready to harvest the first of the week.

The pigs on limited ration and alfalfa pasture were weighed on Thursday. These pigs were allowed to run for a period of twenty-one days between weighings. They made an average gain of eight pounds per head during the period. The alfalfa pasture was very short with but little new growth at the end of the period. One-third of the five-acre sorgo pasture was fenced off and the pigs turned in on July 27.

Mr. J. R. Dawson, Dairy Husbandman in charge of dairy field stations, accompanied by Mrs. Dawson, was a station visitor during the week.

Maximum temperature 88, minimum 53; precipitation, .70 inch.

ARCHER:

The weather has been rather even, the days not too hot, the nights not too cool and the humidity has been rather high with a tendency towards fog. Dew and light showers have occurred. This, in connection with the mild temperatures, has produced conditions favorable for rust and there is considerable of it, even on the winter wheat varieties.

Winter rye is ripe and winter wheat is ripening as are also the early seeded early varieties of barley and oats. On the whole, these crops, as well as spring wheat, are good. Potatoes and field peas are in full bloom. Beans are beginning to bloom. Early seeded Gehu corn is tasseling and a few of the early sunflowers are blooming.

Archer, continued:

During the week the first of the rye silage was fed to the dairy herd and they are eating it with relish.

Work at the station has consisted almost wholly of weeding. Within the next couple of days the greater part of this work will come to an end.

Maximum temperature 79, minimum 48; precipitation, .31 inch.

AKRON:

The past week has been very cool with frequent light showers, weather not particularly favorable for the growth of corn and the sorghums. However, corn is tasselling by this week end but little later than the average date.

The harvesting of the over-ripe winter wheat was accomplished by the middle of the week after considerable difficulty because of wet ground, fallen grain, and excessively weedy grain. Nearly all of the fallow plats had fallen so that harvesting in one direction was necessary and the plats where winter killing had been severe were very weedy with Russian thistles. This week end finds all harvesting of small grains completed except the rotation spring wheat plots, one small area of increase Marquis, certain of the late seeded plots of the rate and date winter wheat experiment, certain late oat varieties in the oat variety experiment, and the early seedings in the date-of-seeding spring grains experiment.

Leaf rust made its appearance some ten days ago and is playing havoc with the spring wheat and the late seeded winter wheat plots. Rust postules almost completely cover the stems and are to be found up on the glumes and even beards. Grasshoppers too are present in myriads, and they are damaging the spring wheat and the late seeded winter wheat. The hopperdozer was run Friday morning with gratifying success and some poison bran has already been scattered. It is expected more control work will have to be put in practice to save the corn and the sorghum from damage.

The first threshing of the season was done Friday afternoon when one one-fifth acre area of Tenmarq winter wheat on fallow yielded at the rate of 62.5 bushels of excellent quality grain to the acre and one one-eighteenth acre area of Rosen rye on fallow yielded at the rate of 45 bushels of excellent quality grain to the acre. Many had estimate this increase plot of Tenmarq at 40 bushels to the acre but this estimate proved to be a little less than two-thirds its actual yield. It now looks like the station would have some of the heaviest yields of small grain on fallow within its history. Many of the fallow winter wheat plots produced ten to twelve ten-bundle shocks to the tenth acre plot.

Akron, continued:

Montmorency cherries are ripe this week end and they will be picked the first opportunity next week. The yield will be one-half to two-thirds average.

All row crops and all open land is being worked this week end. Maximum temperature 84, minimum 54; precipitation, .51 inch.

NORTH PLATTE:

There has been no material change in weather conditions. Temperatures have been rather low and rain has occurred on four days. Some harvesting has been possible on three half days. It was hoped that the last of the small grains would be harvested today, July 28, but rain stopped the machines early in the forenoon and heavy rain is continuing so that there is no prospect of getting back into the fields today.

Corn is now about seven feet in height, and is about one-half in tassel.

COLBY:

Weather has remained cool and damp the past week. Work during the week has been that of cultivating sorghums, hoeing weeds, and getting racks ready for threshing. No threshing has been done to date. It is very poor weather for threshing, as the damp atmosphere with the rather frequent showers keeps the grain tough. The wheat harvest in this vicinity is just well started. Not more than half of the time is fit for heading or combining.

Sorghums are growing rapidly and corn is just about tasselled. Silking is starting. All listed sorghums have been cultivated level with the exception of the listed D.L.A. sorghums. These will not be cultivated until the coming week.
Maximum temperature 86, minimum 57; precipitation, .47 inch.
Evaporation, 1.168 inches. Average hourly wind velocity, 3.2 miles.

GARDEN CITY:

Rain was recorded on four days of the past week. A total of 2.28 inches of moisture were received. Maximum temperatures during the month of July has been low.

It was impossible to accomplish much field work. Some hoeing of weeds in alleys and roadways was done.

Garden City, continued:

Row crops are making satisfactory growth. Corn, especially, is growing rapidly.

It was hoped that wheat threshing could be done but rains prevented. As reported previously, winter wheat was mowed and raked into windrows. There has been so much damp weather since that the crop is now badly rotted.

Maximum temperature 87, minimum 52; precipitation, 2.28 inches.
Precipitation since July 1, 5.44 inches; since January 1, 24.73 inches.

DALHART:

The past week has been comfortably cool with sufficient precipitation to retard the harvest of winter wheat, yet doing a great deal of good to row crops. The rains have been quite general, according to reports, over different sections. The total precipitation for this week is 1.14 inches, of which .26 inch was reported in the rainfall of last week, since it was recorded during the day last Saturday. This makes a total of .88 inch received since last Saturday afternoon.

The fields were too wet to work for several days this week. It was Friday before they had dried sufficiently to work. During this time work was confined to cleaning up along roadways and in the tree planting, etc. Weeds have been growing rapidly of late with the frequent rains. An effort is being made to keep the weeds out of all the crops. They are not thick in any of the crops, but are scattered generally. Good headway can be made when the fields are dry enough for work.

A number of varieties are heading or headed. All crops are heading out short this year. The field corn is tasseling three feet shorter than usual. This can likely be traced to the long dry spell during June and early July. Everything is making excellent headway.

Maximum temperature 86, minimum 57; precipitation, 1.14 inches.

TUCUMCARI:

Relief from the intense heat of the fore part of the month, occasional showers, and partial cloudiness have caused rapid growth of all crops the past week. Sudan and milo in rotations are beginning to head, while a number of varieties in the May 15 grain sorghum test are in full head. All heading plants are unusually short, doubtless caused by the heat and drought of early July.

Work the past week has consisted of considerable cultivating, working of fallows, mowing and raking weeds from roadways and fence lines, road grading, completion of thinning a few late plots, and hoeing weeds from plot and increase row ends.

Tucumcari, continued:

Mr. J. R. Horton, Entomologist, of Wichita, Kansas, spent two days at the station examining corn plots which are being conducted for work with control of Southwestern stalk borer. He reported 300 miles of muddy road leading from southwest Kansas through the Panhandle and found Tucumcari the driest spot encountered.

Maximum temperature, 89, minimum, 60. Mean for the week, 74, compared with the long-time July mean of 78, and with a mean of 87 for the first ten days of July, this year. Precipitation, .38 inch; evaporation, 1.855 inches. Wind velocity, 4.1 miles.

Precipitation, Jan. 1, to July 28, 1928, 8.34"; 23-yr. average, 9.91"
" " Oct.1,1927, to July 28, 1928, 8.63"; 23-yr. average, 12.73"

BIG SPRING:

Weather conditions have improved to a great extent during the past week over what they had been during the early part of the month. It did not seem as though the crops could withstand the dry, hot weather which prevailed during the first three weeks of July. The long dry spell was broken on July 21, and it has rained some every day since. Although the total for the entire period was only 1.78 inches, there was enough each day to keep the teams out of the field all week.

All crops have responded to this much needed rain, and are now showing a healthy, green, color, and are growing very fast. The early grain sorghums, such as the feteritas and darso are heading, as are also the early forage sorghums. Some of the early dates of grain sorghums are maturing, but the birds are damaging them considerably.

Work during the past week has consisted chiefly of cleaning fence rows, hoeing in the orchard and roadways, and other odd jobs. Some Carmon peaches and Poole's pride plums were picked. The quality of the fruit was good, but yields were light. Several varieties of grapes were also picked.

Maximum temperature 102, minimum 66; precipitation, 1.78 inches.

LAWTON:

A rain of .57 inch on the 21st was followed by an entire week of cloudy, threatening, showery weather. The maximum temperature varied from 80 to 88 and the minimum temperature from 66 to 72. Wind movement was almost negligible, the average hourly velocity ranging from 0.8 to 3.7 miles per hour, with an average of 1.7 miles for the entire week. The total rainfall for the week was 1.73 inches.

Lawton, continued:

This unusually favorable period has been of almost inestimable benefit to row crops of all kinds. Plant life presents a luxuriant growth and weeds and grass spring up rapidly with renewed growth and vigor after mowing or cultivation.

The soil is not carrying any surplus of moisture and the succulent crop growth that obtains is susceptible to injury and deterioration from even short, hot, dry periods as was evidenced after the June rains.

Cowpeas are sufficiently mature for harvest but weather prevents such work as yet. Soybeans have made vigorous growth and several varieties of the 70 that are growing show considerable promise.

Cotton growth and development has been rapid and the crop is fruiting heavily. The presence of boll weevil is frequently reported and farmers are watching the possible manace with considerable concern.

Stubble ground on the rotation plots and increase fields was plowed or disked before the rains of this week and is now in good shape.

Grapes are ripening and some varieties have been picked. June bugs are inflicting heavy damage, making it necessary to pick some of the fruit before it is thoroughly ripe.

WOODWARD:

Field work was largely cleaned up last week except miscellaneous hoeing, cleaning up fence rows, etc., to which time was devoted this week. Some Burmuda grass was planted in draws which are inclined to wash. About 500 bushels of kafir and milo was threshed from the heads which had been stored in the stack since last fall. They seem in very good shape, though the spring has been very wet. In fact, one small stack of heads has been carried over since the fall of 1925, and except for the surface which is mouldy and weathered and blown full of sand for a few inches in depth, it seems in very good condition. No trouble with insect pests has ever been experienced on the station, through carrying grain sorghum heads in stacks, though farmers have reported much damage.

Many stations have electric motors connected to pulley shafts with very short belts which must be kept so tight that bearings soon wear out on motors. At Woodward a chain similar to a bicycle chain, but much heavier, has been substituted. It does not need to be kept tight enough to injure bearings, and probably can be used with a motor up to 20 horsepower or more.

Maximum temperature 91, Minimum 59; Average hourly wind velocity 2.9 m. Precipitation .29 inch; Evaporation 1.268 inches.